



charge in cfs			Total Recoverable Iron Coefficients		
	Intercept	coefficient		B	Intercept
			Low Flow November-March		
M34	-2.771	0.394	-2.28954	0.38718	A72 0.290 967.14829
CC48	1.752	0.130	6.77165	0.10539	M34 0.0462213.03711
A68	-11.131	0.498	-3.62869	0.45153	CC48 1.000 6149.71503
					A68 0.000 417.72851

Discharge Relationships among the three gages

MONTH	J	F	M	A	M	J	J
Intercept	1	1	1	1	1	1	1
A 72	64	63	77	155	682	1196	624
M34	22	22	28	58	266	468	243
CC48	14	13	15	22	91	158	83
A68	25	25	31	66	329	585	300
Ground water	3	3	3	9	-3	-14	-2

1/(1+BQ) Discharge Representation

A 72	0.0511	0.0519	0.0429	0.0218	0.0050	0.0029	0.0055
M34	0.4915	0.4959	0.4413	0.2718	0.0756	0.0444	0.0821
CC48	0.0689	0.0694	0.0629	0.0435	0.0109	0.0063	0.0119
A68	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Date variables

sin	0.1552	0.6358	0.9276	0.9887	0.7862	0.3629	-0.1441
cos	0.9879	0.7719	0.3737	-0.1496	-0.6180	-0.9318	-0.9896
sin1	0.3066	0.9815	0.6932	-0.2959	-0.9717	-0.6763	0.2852
cos1	0.9518	0.1916	-0.7207	-0.9552	-0.2361	0.7366	0.9585
Consent	1	1	1	1	1	1	1

A72	Intercept	1	1	1	1	1	1
	BQ	0.0511	0.0519	0.0429	0.0218	0.0050	0.0055
	sin	0.1552	0.6358	0.9276	0.9887	0.7862	-0.1441
	cos	0.9879	0.7719	0.3737	-0.1496	-0.6180	-0.9896
	sin1	0.3066	0.9815	0.6932	-0.2959	-0.9717	-0.6763
	cos1	0.9518	0.1916	-0.7207	-0.9552	-0.2361	0.7366
	Consent						

A72 Concentration 4400 4835 4503 3201 2015 1663 1522

M34	Intercept	1	1	1	1	1	1
	BQ	0.4915	0.4959	0.4413	0.2718	0.0756	0.0444
	sin	0.1552	0.6358	0.9276	0.9887	0.7862	-0.1441
	cos	0.9879	0.7719	0.3737	-0.1496	-0.6180	-0.9896
	sin1	0.3066	0.9815	0.6932	-0.2959	-0.9717	-0.6763
	cos1	0.9518	0.1916	-0.7207	-0.9552	-0.2361	0.7366
	Consent	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

M34 Concentration 4848 4871 4578 3670 2618 2451 2653

CC 48	Intercept	1	1	1	1	1	1	1
	BQ	0.0689	0.0694	0.0629	0.0435	0.0109	0.0063	0.0119
	sin	0.1552	0.6358	0.9276	0.9887	0.7862	0.3629	-0.1441
	cos	0.9879	0.7719	0.3737	-0.1496	-0.6180	-0.9318	-0.9896
	sin1	0.3066	0.9815	0.6932	-0.2959	-0.9717	-0.6763	0.2852
	cos1	0.9518	0.1916	-0.7207	-0.9552	-0.2361	0.7366	0.9585
	Consent	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
CC 48 Concentration		9912	9699	8832	7285	5433	4412	4134
A68	Intercept	1	1	1	1	1	1	1
	BQ	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	sin	0.1552	0.6358	0.9276	0.9887	0.7862	0.3629	-0.1441
	cos	0.9879	0.7719	0.3737	-0.1496	-0.6180	-0.9318	-0.9896
	sin1	0.3066	0.9815	0.6932	-0.2959	-0.9717	-0.6763	0.2852
	cos1	0.9518	0.1916	-0.7207	-0.9552	-0.2361	0.7366	0.9585
	Consent							
A68 Concentration		432	560	644	673	633	534	406
Concentration		2640	2715	2611	2171	1626	1492	1530
Load in pounds per day								
Sum		1410	1398	1547	2361	7515	11521	5979
A72		1521	1645	1872	2680	7420	10739	5127
% Difference		-0.07	-0.15	-0.17	-0.12	0.01	0.07	0.17
RPD		-0.08	-0.16	-0.19	-0.13	0.01	0.07	0.15

Total Recoverable Iron Coefficients				
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Bq	sin	cos
70284.48741	672.13924	<u>-267.91244</u>
5360.03508	515.84443	<u>1296.14462</u>
21591.29071	532.89897	<u>2218.80854</u>
0	254.47374	<u>-25.25660</u>

A	S	O	N	D
1	1	1	1	1
268	187	142	92	70
103	71	53	33	25
37	26	20	16	14
122	82	60	38	28
6	8	9	4	3

0.0127	0.0181	0.0237	0.0361	0.0469
0.1746	0.2348	0.2903	0.3948	0.4670
0.0265	0.0368	0.0470	0.0572	0.0660
1.0000	1.0000	1.0000	1.0000	1.0000

-0.6271	-0.9360	-0.9878	-0.7716	-0.3573
-0.7789	-0.3521	0.1556	0.6361	0.9340
0.9769	0.6591	-0.3074	-0.9816	-0.6674
0.2135	-0.7521	-0.9516	-0.1908	0.7447
1	1	1	1	1

1	1	1	1	1
0.0127	0.0181	0.0237	0.0361	0.0469
-0.6271	-0.9360	-0.9878	-0.7716	-0.3573
-0.7789	-0.3521	0.1556	0.6361	0.9340
0.9769	0.6591	-0.3074	-0.9816	-0.6674
0.2135	-0.7521	-0.9516	-0.1908	0.7447

1647	1705	1928	2817	3777
1	1	1	1	1
0.1746	0.2348	0.2903	0.3948	0.4670
-0.6271	-0.9360	-0.9878	-0.7716	-0.3573
-0.7789	-0.3521	0.1556	0.6361	0.9340
0.9769	0.6591	-0.3074	-0.9816	-0.6674
0.2135	-0.7521	-0.9516	-0.1908	0.7447
1.0000	1.0000	1.0000	1.0000	1.0000
3149	3471	3769	4329	4716

1	1	1	1	1
0.0265	0.0368	0.0470	0.0572	0.0660
-0.6271	-0.9360	-0.9878	-0.7716	-0.3573
-0.7789	-0.3521	0.1556	0.6361	0.9340
0.9769	0.6591	-0.3074	-0.9816	-0.6674
0.2135	-0.7521	-0.9516	-0.1908	0.7447
1.0000	1.0000	1.0000	1.0000	1.0000
4660	5665	6984	8386	9457

1	1	1	1	1
1.0000	1.0000	1.0000	1.0000	1.0000
-0.6271	-0.9360	-0.9878	-0.7716	-0.3573
-0.7789	-0.3521	0.1556	0.6361	0.9340
0.9769	0.6591	-0.3074	-0.9816	-0.6674
0.2135	-0.7521	-0.9516	-0.1908	0.7447
278	188	162	205	303

1713	1830	1966	2267	2510
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2912	2290	1994	1619	1442
2384	1722	1478	1400	1428

0.22	0.33	0.35	0.16	0.01
0.20	0.28	0.30	0.15	0.01

A72		Chronic TVS at A72		Prediction Equation Coefficients	
	a2	b2		Hardness	
Cd	-3.49	0.7852	B	0.006	
Cu	-1.485	0.8545	Intercept	82.304	
Mn	4.785	0.5434	BQ	200.676	
Zn	0.7614	0.8473	sin	16.936	
			cos	48.860	
			sin1	15.385	
			cos1	-5.633	

Month	J	F	M	A	M	J	J
Q	64	63	77	155	682	1196	624
Hardness	277	290	268	196	91	53	72
Fe	1000	1000	1000	1000	1000	1000	1000

M 34		Prediction equation coefficients					
		Hardness	Aluminum	Cadmium	Copper	Iron	Zinc
B		0.013	1.00	0.021	0.123	0.06521	0.021
Intercept		60.05228	15.10361	0.91724	14.65129	77.70523	105.25873
BQ		105.02801	38.29032	0.60966	0.98354	70.29706	78.11589
sin		9.24827	69.03843	0.26911	14.16661	-89.38888	88.77920
cos		32.30173	79.08681	0.20991	10.17487	38.04002	85.94018
sin1			435.43127	-0.12214	1.04278	86.24646	-17.99615
cos1			123.10453	-0.14689	-3.82920	-12.30367	-45.60154
consent			-265.10754		-10.75402	35.80515	-98.00378

	MONTH	J	F	M	A	M	J	J
Avg monthly	Q	22	22	28	58	266	468	243
	Hardness	255	241	226	170	86	60	76
Chronic Stan	Fe	1000	1000	1000	1000	1000	1000	1000

A68 Animas at Silverton

Prediction equation coefficients								
		Hardness	Cadmium	Copper	Manganese	Zinc		
B		0.011na	na	na	0.010	0.016		
Intercept		37.945	2.395	5.783	258.473	304.617		
BQ		165.600			1371.923	644.136		
sin			1.712	2.049	611.024	315.451		
cos			0.140	0.729	81.662	-18.603		
sin1			-0.250	-1.520	16.031	-33.783		
cos1			-1.185	-0.472	-263.628	-140.108		
May			-1.936	2.261	-258.699			
consent			-0.714	-1.828	411.428	-67.174		
Animas R	Month	J	F	M	A	M	J	J
	Q	25	25	31	66	329	585	300
	Hardness	168	168	161	134	74	60	76
	Cd,tvs	1.7	1.7	1.7	1.4	0.9	0.8	0.9
	Cu tvs	18	18	17	15	9	8	9
	Mn tvs	1935	1938	1895	1713	1240	1110	1264
bnic stand	Fe	1000	1000	1000	1000	1000	1000	1000

ction Equation Coefficients

A	S	O	N	D
268	187	142	92	70
124	158	182	215	248
1000	1000	1000	1000	1000

	Acute TVS at M34		Chronic TVS at M34	
	a2	b2	a3	b3
Cd	-3.828	1.128	-3.49	0.7852
Cu	-0.7703	0.9422	-1.485	0.8545
Mn	4.4995	0.7893	4.785	0.5434
Zn	0.8904	0.8473	0.7614	0.8473

A	S	O	N	D
103	71	53	33	25
126	151	192	217	253
1000	1000	1000	1000	1000

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Chronic TVS at A68		
	a2	b2
Cd	-3.49	0.7852
Cu	-1.485	0.8545
Mn	4.785	0.5434
Zn	0.7614	0.8473

A	S	O	N	D
122	82	60	38	28
109	125	138	155	165
1.2	1.4	1.5	1.6	1.7
12	14	15	17	18
1528	1650	1741	1854	1916
1000	1000	1000	1000	1000